

What is claimed is:

1. A method for identifying opportunities in a radio network comprising:

listening for a first period of time;

detecting a first busy slot;

listening for a second period of time;

detecting a second busy slot;

listening for a third period of time;

detecting a third busy slot;

recognizing a sequence of the first, second, and third busy slots as a function of time;

performing a Randomized Hough Transform on the sequence;

generating a histogram based on the Randomized Hough Transform;

identifying peaks in the histogram;

determining whether the peaks correspond to a known radar; and

identifying an opportunity to transmit.

2. The method of Claim 1, wherein the method further comprises listening for at least a fourth period of time and detecting at least a fourth busy slot.

3. The method of Claim 1, wherein the determining step determines whether the peaks correspond to a known radar in limited bandwidth.

4. A device (607) for identifying opportunities in a radio network comprising:

- a) a source (604);
- b) a processor (601) for performing a computation, said processor comprising:
  - a means for performing an Randomized Hough Transform, a means for generating a histogram based on the Randomized Hough Transform,
  - a means for identifying peaks in the histogram, and
  - a means for identifying opportunities to transmit
- c) a memory (608); and
- d) at least one listening device (605).

5. The device (607) of Claim 4, wherein the device further comprises a Medium Access Control (602), a physical layer (603), and at least one transmitter (606).

6. The device of Claim 4, wherein the listening device (607) is an IEEE 802.11 slot mechanism.